We claim:

1. A method of forming a ferromagnetic sputter target comprising the steps of:

providing a ferromagnetic sputter workpiece and hot rolling the workpiece to a substantially circular configuration sputter target;

machining a taper in a surface of the sputter target to have a thickness gradient of the sputter target, where the center of the sputter target is about 0.020 to about 0.005 inches thinner than the edge of said sputter target, and where the magnetic leakage flux across the sputter target is uniformly distributed.

2. The method of claim 1, wherein the thickness gradient in the sputter target is linear or parabolic.

3. The method of claim 1, further comprising machining the taper in a concentric configuration on the surface of the sputter target, where the thickness decreases from the outermost concentric circle to the innermost concentric circle.

4. The method of claim 3, wherein the thickness of the sputter target within each concentric circle is uniform.

5. The method of claim 1, wherein the sputter target is nickel.

6. The method of claim 1, further comprising cold rolling, forging or cryogenic forming of the ferromagnetic sputter workpiece.

7. The method of claim 1, wherein the thickness in the center of the sputter target is about 0.010 to about 0.005 inches thinner than the edge of said sputter target.

8. A method of forming a sputter target assembly comprising the steps of:

providing a ferromagnetic sputter target with a taper in a surface thereof, where the thickness gradient of the taper is such that the thickness at the center of the sputter target is about 0.020 to about 0.005 inches thinner than at the edge of the sputter target and where the magnetic leakage flux across the sputter target is uniformly distributed;

applying a bond metal layer between the sputter target and a backing plate;

pressing the sputter target and the backing plate; and

forming a solid state bond therebetween to obtain the sputter target assembly.

9. The method of claim 8, wherein the ferromagnetic sputter target is nickel and the backing plate is a copper alloy.

10. The method of claim 8, wherein the pressing of the sputter target and the backing plate occurs at a

pressure above about 70 MPa and at a temperature of about 260 to 320°C.

11. The method of claim 8, wherein the thickness gradient of the taper in said sputter target is linear or parabolic.

12. The method of claim 8, further comprising machining the taper in a concentric configuration on the surface of the sputter target, where the thickness decreases from the outermost concentric circle to the innermost concentric circle.

13. The method of claim 12, wherein the thickness of the sputter target within each concentric circle is uniform.

14. A method of forming a sputter target assembly comprising the steps of:

providing a ferromagnetic sputter target having a first and second surface, wherein the first surface is a flat sputtering surface and the second surface is tapered to a thickness gradient such that the thickness at the center of the sputter target is about 0.020 to about 0.005 inches thinner than at the edge of the sputter target where the magnetic leakage flux across the sputter target is uniformly distributed;

providing a backing plate with a matching recess to the second surface of the sputter target;

applying a bond metal layer between the second surface of the sputter target and the backing plate;

pressing the sputter target and the backing plate; and

forming a solid state bond therebetween to obtain the sputter target assembly.

15. A ferromagnetic sputter target, comprising: a substantially circular target having a tapered surface and a target thickness gradient, where the thickness at the center of the sputter target is about 0.020 to about 0.005 inches thinner than the edge of the sputter target, and wherein the magnetic flux across the sputter target is uniformly distributed.

16. The ferromagnetic sputter target of claim 15, wherein the target thickness gradient in the sputter target is linear or parabolic.

17. The ferromagnetic sputter target of claim 15, further comprising machining the taper in a concentric configuration on the surface of the sputter target, where the thickness decreases from the outermost concentric circle to the innermost concentric circle.

18. The ferromagnetic sputter target of claim 17, wherein the thickness of the sputter target within each concentric circle is uniform.

19. The ferromagnetic sputter target of claim 15, wherein the sputter target is nickel.

20. A sputter target assembly, comprising:

a ferromagnetic sputter target with a taper in a surface thereof, where the thickness gradient of the taper is such that the thickness at the center of the sputter target is about 0.020 to about 0.005 inches thinner than at the edge of the sputter target and where the magnetic leakage flux across the sputter target is uniformly distributed;

a backing plate with a matching recess therein having the ferromagnetic sputter target disposed therein and solid state bonded thereto to obtain the sputter target assembly.

21. The sputter target assembly of claim 20, wherein the ferromagnetic sputter target is nickel and the backing plate is a copper alloy.